

IWAMURA *et al.*, Serial No. 09/774,715
Amdt. dated 21 September 2004
Reply to OA mailed 21 May 2004

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IN THE ABSTRACT:

Abstract of the Disclosure

~~Disclosed are the~~ An ATM communication apparatus and ~~the a~~ bandwidth control method thereof ~~that are capable of bandwidth control to~~ guarantee the minimum cell rate and limit the upper-limit for each of subscriber terminals, dynamically and fairly distribute the shared bandwidth based on the register status, and ~~can be~~ are easily applied to the system that is already operating the actual service. A

~~The ATM communication apparatus comprises: a traffic supervisory unit for supervising traffic situation~~ supervises traffic situations of upstream ATM cells sent by a plurality of the optical network units 3-1 to 3-n; ~~a, and a~~ bandwidth controller for judging controls an access bandwidth of each of the optical network units 3-1 to 3-n based on receiving ~~bandwidth status and cell overflow situation~~ information of effective ATM cells transmitted by a plurality of the optical network units 3-1 to 3-n that the traffic supervisory unit detected ~~and moreover according to a basic bandwidth and the upper-limit bandwidth set, by the supervisory controller; a~~ detects. A control table of permission to transmit transmits an upstream cell for maintaining the access bandwidth judged by the bandwidth controller; ~~a controller. A~~ generator of permission to transmit an upstream cell for generating permission to transmit an upstream cell according to the access bandwidth judged by the bandwidth controller. ~~The bandwidth controller comprises: a basic bandwidth assigner for assigning the basic bandwidth set from the supervisory controller; a~~

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~~shared bandwidth assigner for assigning a shared bandwidth based on the upper-
limit bandwidth set from the supervisory controller and the receiving bandwidth and
the cell overflow situation sent by the traffic supervisory unit; and a shared bandwidth
memory for maintaining the assigned shared bandwidth.~~